

Claims:

1. Dermal application system, which is a self-adhesive matrix system, characterised in that the polymer matrix contains a crystallinic aminolaevulinic acid derivative (ALA derivative), wherein the crystals of the ALA derivative have a size of less than approximately 200  $\mu\text{m}$ .
2. Application system according to claim 1, characterised in that the polymer system is water-permeable.
3. Application system according to claims 1 and 2, characterised in that the polymer matrix is selected from polymers from the group consisting of
  - a) acrylates,
  - b) silicon polymers and
  - c) polyisobutylene.
4. Application system according to claims 1 to 3, characterised in that the crystals of the ALA derivative have a (mean) diameter of 30  $\mu\text{m}$  to 190  $\mu\text{m}$ .
5. Application system according to claim 4, characterised in that the crystals of the ALA derivative have a (mean) diameter of 90  $\mu\text{m}$  to 160  $\mu\text{m}$ .
6. Application system according to claims 1 to 5, characterised in that the aminolaevulinic acid derivative is present in a concentration of 1 to 50 wt.% relative to the finished polymer matrix.
7. Application system according to claims 1 to 6, characterised in that the crystals of the ALA derivative have a diameter of 30 to 190  $\mu\text{m}$  and the polymer matrix consists of Eudragit NE (NE) and acetyl tributyl citrate (ATBC) in the weight ratio NE/ATBC of 1:0.5 to 1:2.5, wherein the aminolaevulinic acid derivative is present in a concentration of 1 to 50 wt.% relative to the finished polymer matrix.

8. Application system according to claim 7, characterised in that the crystals of the ALA derivative have a diameter of 90 to 160  $\mu\text{m}$ .
9. Application system according to claims 1 to 8, characterised in that it releases at least 30% of the ALA derivative within 30 minutes.
10. Application system according to claims 1 to 9, characterised in that the ALA derivative is a compound of the general formula  $\text{R}^2_2\text{N}-\text{CH}_2\text{COCH}_2\text{COOR}^1$ , wherein  $\text{R}^1$  is an alkyl residue, which is optionally substituted by a hydroxy, alkoxy, alkyloxy, alkoxy carbonyloxy, amino, aryl, oxo, or fluoro group and optionally interrupted by oxygen, nitrogen, sulfur, or phosphorous atoms, and each of  $\text{R}^2$  independently from one another represents a hydrogen atom or a group like  $\text{R}^1$ , or a salt thereof.
11. Application system according to claim 10, characterised in that the aryl group is a phenyl residue or a monocyclic 5 to 7 membered heteroaromatic residue.
12. Application system according to claim 10 or 11, characterised in that  $\text{R}^1$  is an unsubstituted alkyl group.
13. Application system according to claims 10 to 12, characterised in that the alkyl group has 1 to 10 carbon atoms.
14. Application system according to claims 10 to 13, characterised in that the ALA derivative is 5-amino levulinic acid methyl ester, 5-amino levulinic acid ethyl ester, 5-amino levulinic acid propyl ester, 5-amino levulinic acid butyl ester, 5-amino levulinic acid pentyl ester, 5-amino levulinic acid hexyl ester, 5-amino levulinic acid heptyl ester, 5-amino levulinic acid octyl ester, or a pharmaceutically acceptable salt thereof.
15. Application system according to claims 10 to 14, characterised in that the ALA derivative is a mixture of different ALA derivatives.

16. Application system according to claims 1 to 15, characterised in that it further contains crystallinic aminolevulinic acid (ALA).
17. Application system according to claim 16, characterised in that the ALA crystals have a (mean) diameter of 30 to 190  $\mu\text{m}$ .
18. Application system according to claim 17, characterised in that the ALA crystals have a (mean) diameter of 90  $\mu\text{m}$  to 160  $\mu\text{m}$ .
19. Method for preparation of the application system according to claims 1 to 18, characterised in that freeze-dried Eudragit NE (NE) with acetyl tributyl citrate (ATBC) is dissolved in acetone, in the NE/ATBC ratio of 1:0.5 to 1:2.5, after which ground ALA derivative in the particle size range of less than approximately 200  $\mu\text{m}$  is dispersed in the acetone solution and the dispersion thus obtained is drawn to produce a thin film on a cover foil, and dried for 45 minutes at 60°C.
20. Method according to claim 19, characterised in that a mixture of different ALA derivatives, or a mixture of one or several ALA derivatives with ALA, is used instead of one ALA derivative.
21. Use of an application system according to claims 1 to 18 in photodynamic therapy and/or diagnosis of pre-cancerogenic and carcinogenic lesions of the skin.
22. Use of an application system according to claims 1 to 21 in photodynamic therapy and/or diagnosis of basaliomas.